Wednesday, July 02, 2014 3:34:28 PM

121783

Item ID:	D3413-1	Accept	***N9000401 00***
Revision ID:			
Item Name:	O-Ring		

Setup Start ***NS1***

Stop ***NS2***

Start Date:	7/02/14	Start Qty: 12.00	***12***
Required Date:	7/02/14	Req'd Qty: 12.00	***12***
Reference:			

Cust Item ID:

Customer:

Run Start ***NR1***

Stop ***NR2***

Approvals: Process Plan: __ML J__ Date: __14-07-03__ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D3413	Rev A

100 ***100*** Waterjet FLOW CNC Waterjet	FLOW WATER JET	0.00				12	0		DAS 23 9-89 14-10-16
	Memo 1-Cut as per Dwg D3413 Dwg Rev: A Prog Rev: A	0.00							

2- Deburr and drill hole if required as per dwg D3413 & QSI018 4.1 .

110 ***110*** QC Quality Control	QC2- Inspect parts off machine FAI/FAIB	0.00				12	0		DAS 23 9-89 14-10-16
	Memo	0.00							

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: _____ Date: _____   Work Order update only ☐

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION
- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS
- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐									
Doc/Data ☐									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear
- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General
- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function

- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence

- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge

- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____
_____
_____

Item ID: D3413-1	Accept	***N900040100***
Revision ID:		
Item Name: O-Ring		

Start Date: 7/02/14	**Start Qty:** 12.00	***12***	**Cust Item ID:**
Required Date: 7/02/14	**Req'd Qty:** 12.00	***12***	**Customer:**

Reference:

Setup Start ***NS1***
Stop ***NS2***

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 ***120*** QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				(12)		DAS 38 9-89	OCT 2 0 2014
150 ***150*** Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum *M 12988* Memo START TIME: *11:45* *400°* FINISH TIME: *12:15* OVEN TEMPERATURE:	0.00 0.00				*12 d 14-10-21*		DAS 34 9-89	
160 ***160*** QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				(12)		DAS 38 9-89	OCT 2 1 2014

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION
- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS
- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐									
Doc/Data ☐									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear
- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General
- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function

- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence

- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge

- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____
_____
_____

Item ID:	D3413-1			Accept	***N9000040100***	Setup	Start	***NS1***
Revision ID:							Stop	***NS2***
Item Name:	O-Ring							
Start Date:	7/02/14	Start Qty:	12.00	***12***	Cust Item ID:			
Required Date:	7/02/14	Req'd Qty:	12.00	***12***	Customer:			
Reference:								

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run   Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 ***170*** Packaging Packaging	Identify as per dwg & Stock Location: St 530	0.00				(12)		14/10/21	DAS **46** 9-89
	Memo	0.00							
180 ***180*** QC Quality Control	QC21- Final Inspection - Work Order Release	0.00						14/10/22	
	Memo	0.00							

mF
14-10-22

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework	☐
Scrap	☐
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube	☐	Crosstube	☐	Water Jet	☐	Engineering	☐
Machining	☐	Small Fab	☐	Prod. Eng. Coor.	☐	Quality	☐
Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
Large Fab	☐	Composite	☐	Supplier	☐		☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
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- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function

- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
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- ☐ Over/Under tolerance
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- ☐ Power Loss/Surge

- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____
_____
_____

Wednesday, July 02, 2014 3:34:28 PM

Work Order ID: 121783

Parent Item: D3413-1

Parent Item Name: O-Ring

121783
D3413-1

Start Date: 7/02/14   **Required Date:** 7/02/14

Start Qty: 12.00   **Required Qty:** 12.00

Comments: IPP Rev:A05.09.13New issueKJ/JLM
IPP Rev:B   Now on Waterjet 07-05-28   JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304B0.250X4.000		Purchased	No			100	f	7.8400	0.25	4			DAS 23 9-89

M304B0 250X4 000

304 BAR .250 x 4.00

**

14-10-22

Location	Loc Qty	Loc Code
MAT051	7.84	
123313	2.34	
M128247	5.5	

129972

129972 .

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: _____ Date: _____   Work Order update only ☐

Work Order: _____	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

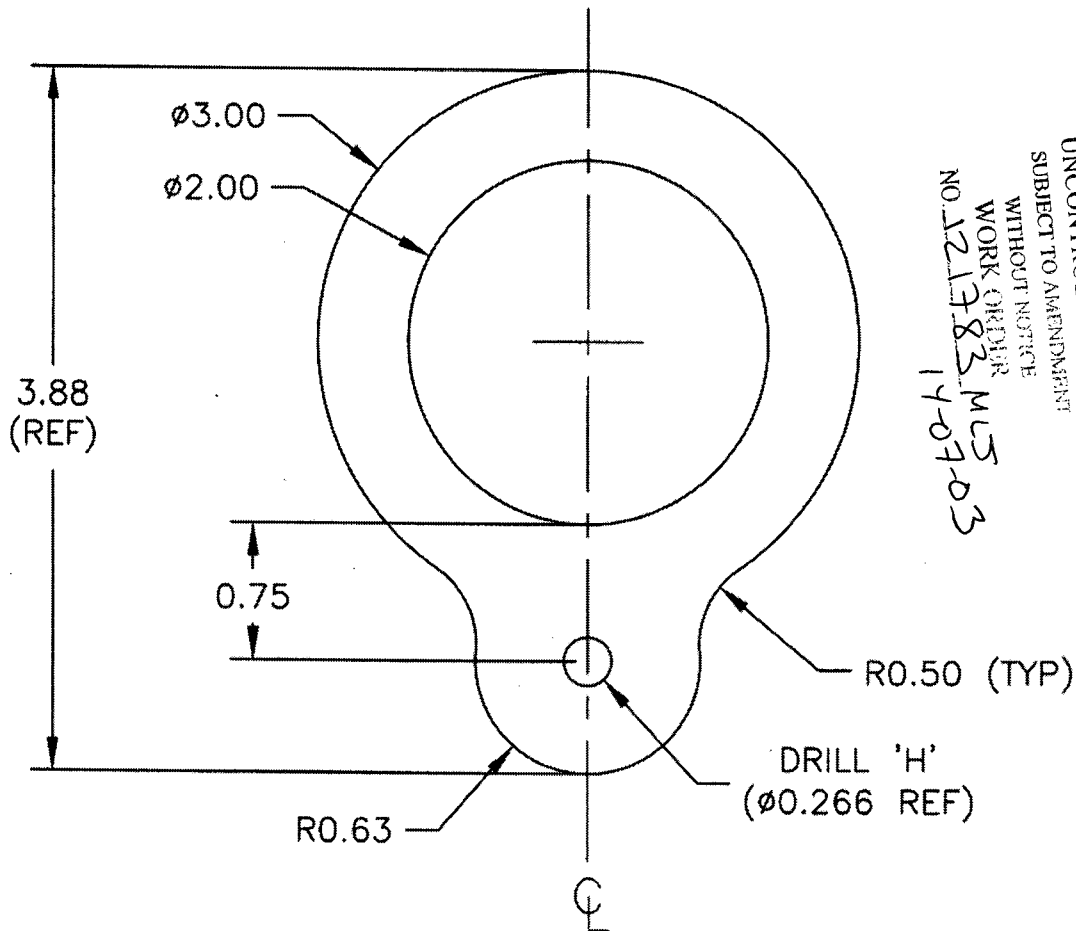| Skid-tube ☐ | Crosstube ☐ | Water Jet ☐ | Engineering ☐ |
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____
_____
_____

DART AEROSPACE LTD		Work Order:	121783
Description: Ring		Part Number:	D3413-1
Inspection Dwg: D3413 Rev: A			Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

| X | First Article | X | Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.88	+/-0.030	3.99"	—		✓	Jkmd1
Ø2.00	+0.012/-0.001	2.006"	—		✓	
0.75	+/-0.030	0.75"	—		✓	
Ø0.266	+0.006/-0.001	0.266"	-		✓	
0.250	+/-0.010	0.260"	—		✓	

	DAS		DAS			
Measured by:	23 9-89	Audited by:	38 9-89	Prototype Approval:		N/A
Date:	14-10-16	Date:	OCT 20 2014	Date:		N/A

Rev	Date	Change		Revised by	Approved
A	07.09.06	New Issue		KJ/JLM	

RELEASED
05-09-06

⌀3.00

⌀2.00

3.88
(REF)

0.75

R0.50 (TYP)

DRILL 'H'
(⌀0.266 REF)

R0.63

℄

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 121983 MUS
14-07-03

<u>D3413-1 RING</u>
1) MATERIAL: AISI 304/316 SS PLATE, 0.250 THICK (REF DART SPEC. M304S3GA)
2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
3) DEBURR ALL SHARP EDGES 0.010 TO 0.020
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES